

From: [CC Grisham](#)
To: [Tzhone, Stephen](#); hynum@adeq.state.ar.us
Cc: [CC Grisham](#); [Sanchez, Carlos](#)
Subject: Fwd: Arkwood - Pentachlorophenol | Pesticides | US EPA
Date: Thursday, August 22, 2013 5:01:39 PM
Attachments: [pentachlorophenol_red.pdf](#)
[ATT00001.htm](#)
[980130ArjmandiLetterARstandardH2O.pdf](#)
[ATT00002.htm](#)
[9383907-2.pdf](#)
[ATT00003.htm](#)
[20120214 Clem to Ghose re revised H2O standard.pdf](#)
[ATT00004.htm](#)
[20121218 Mescher regarding ADEQ & H2O copy.pdf](#)
[ATT00005.htm](#)
[20120713 Moix to Tzhone re H2O standard ~15 ugl.pdf](#)
[ATT00006.htm](#)
[Penta - Basic Information about Pentachlorophenol in Drinking Water Basic Information about Regulated Drinking Water Contaminants US EPA.pdf](#)
[ATT00007.htm](#)
[2002_12_30_criteria_wqtable_hh_calc_matrix.pdf](#)
[ATT00008.htm](#)
[20130822 CCGJr H2O cleanup standard agenda item.pdf](#)
[ATT00009.htm](#)

ITEM FOR AGENDA - ARKWOOD H2O REMEDIAL GOAL

Please see the below email message from me to Don Williams, EPA Region 6 dated March 24, 2011, on which both Tammie Hynum and Carlos Sanchez were visibly copied; the email text is found at the very bottom of this document.

I am attaching this document to the original email of March 24, 2011 referenced above, with that email's original attachments plus the attachments cited below, and forwarding it all together for completeness.

I pointed out then --- and do so again now --- that EPA's Frank T. Sanders, Director, Antimicrobials Division, in the Reregistration Eligibility Decision for Pentachlorophenol (September 28, 2008 EPA 739-R-08-008, attached) states:

"Surface water runoff from pentachlorophenol treated utility poles may be a possible source for pentachlorophenol or its transformation products in drinking water or in foods. Estimated Environmental Concentrations (EECs) for surface water have been calculated by the Agency. **Drinking water levels of concern (DWLOCs) for acute and chronic dietary risk from drinking water were calculated. DWLOCs calculated for surface water for pentachlorophenol were 10,465 ppb for adult males and females and 2,990 ppb for children ages 1-6.**" (emphasis added)

[Note: 2,990 ppb = 2986.588411 ug/l]

- In a letter (attached) dated January 30, 1998 from Masoud Arjmandi to Jean Mescher, ADEQ **originally set** the Arkwood water cleanup criteria (18.17 ug/l "Daily Maximum", 9.3 ug/l "Monthly Average, pH between 6.0-9.0)
- ADEQ then **revised** the Arkwood water cleanup criteria by letter (attached) dated February 14, 2012 from Sarah Clem, ADEQ Branch Manager, Water Quality Planning, Water Division, ADEQ to Shawn Ghose, EPA RPM for Arkwood, which states in part:

"Organisms in the effluent discharge stream experience chronic exposure, therefore; the chronic standard of 15.57 ug/l is the appropriate standard for the Arkwood Site."

- In a letter (attached) dated July 13, 2012 from Mark Moix, Engineer, PE, Technical Branch, Hazardous Waste Division, ADEQ to Stephen L. Tzhone, Remedial Project Manager, EPA Superfund Region 6, Mr. Moix states in part:

"The Arkansas Department of Environmental Quality - Hazardous Waste Division & Water Division (ADEQ) have reviewed the Groundwater Remediation Summary dated June 2012. The ADEQ concurs with the summary document with the following comments:

"1) Conclusions and Recommendations, p.9: In February 2012, ADEQ sent to EPA a letter with recalculated water quality standards for New Cricket Spring. These limits should be referenced in the proposed recommendations. The text describes these values as cleanup standards. ADEQ recommends in the sixth sentence of this section 'Based on the Arkansas Pollution Control and Ecology Commission's water quality standard for pentachlorophenol (PCP) presented by ADEQ in their February 14, 2012 letter, the chronic standard of 15.57 ug/l is the appropriate standard for the Arkwood Site.' The appropriate standard for this stream is the chronic standard 15.57 ug/l"

- In a certified letter (attached) dated November 6, 2012 — also from Mark Moix, less than four months later — to Ruben Moya, RPM Superfund, EPA Region 6, Mr. Moix states in part:

"The Arkansas Department of Environmental Quality - Hazardous Waste Division (ADEQ) has received the Monthly Progress Report - September 2012 for Arkwood, Inc. Site, Omaha, Arkansas dated October 10, 2012. After reviewing the report ADEQ has the following comments:

" • According to the email from Jean Mescher, McKesson, dated October 3, 2012 provided with the subject report, samples cannot be obtained 20 feet downstream from the weir as requested by ADEQ during periods of low flow since the effluent "sinks into the subsurface before reaching the culvert". This statement describes the effluent returning to a subsurface status and therefore returning to the state of groundwater. For this reason the Maximum Contaminant Level (MCL) for pentachlorophenol (PCP) of 1.0 ug/l should be used in lieu of the aquatic toxicity standard of 15.57 ug/l which is currently used.

" • Due to the concern discussed in Comment 1 above, a review was performed of past correspondence for clarification concerning applicable risk levels. During the review, it was noticed that the ADEQ water quality standard of 15.57 ug/l is apparently being used as the screening level for PCP in lieu of the MCL of 1.0 ug/l. However, this standard pertains to aquatic toxicity only and does not address potential human health concerns. Even as it is apparently assumed that the stream is not a source for potable water, the MCL of 1.0 ug/l should be the applicable screening level for the following reasons:

" • Much of the groundwater which rises from the spring and becomes surface water returns to groundwater and appears to migrate offsite, as groundwater.

" • According to past correspondence, it appears the consensus of the EPA, ADEQ and McKesson, that some groundwater is circumventing the spring and migrating beyond the spring as groundwater."

- In our telephone conversation of August 22, 2013, Tammie Hynum, Technical Branch Manager, Hazardous Waste Division, ADEQ, Ms. Hynum confirmed that ADEQ had adopted the EPA Maximum Contaminant Level of 1.0 ug/l of pentachlorophenol (PCP) for drinking water and that "a whole group" at ADEQ had formally concurred with Mr. Moix's certified letter of November 6, 2012.

I find it highly disingenuous and objectionable for Mr. Moix to have claimed in his certified letter dated November 6, 2012 (speaking with authority for the whole of ADEQ) that **"...it was noticed that the ADEQ water quality standard of 15.57 ug/l is apparently being used as the screening level for PCP in lieu of the MCL of 1.0 ug/l."**

This statement (with its awkward use of the passive voice) implies that ADEQ was blithely unaware of these facts. That is patently not the case.

Again, ADEQ **sets** the standard, it doesn't just happen to notice it. ADEQ is **responsible** for it and has been for at least fifteen (15) years.

Mr. Moix's certified letter dated November 6, 2012 feigning ignorance of these facts — which are part of the public record — misleads both the EPA and the public. I find this play furtive and offensive. I would like to have an explanation from ADEQ management.

Questions for ADEQ management:

- **Why did ADEQ formally attempt to disavow knowledge of the water cleanup standard that was being used at Arkwood prior to November 6, 2012, (going so far as to send a certified letter to EPA, a measure I do not recall having seen before in ADEQ communication with EPA?)**
- Other than Ms. Mescher's anecdotal, unscientific statement, to what statements, tests or other objectively-verifiable evidence is Mr. Moix referring when he claims that affected surface water returns underground and "appears" to migrate offsite?
- Does ADEQ always rely on hearsay subjective "statements" in forming policy, as it has done here?
- Has ADEQ ever performed primary research, data-gathering, or other original scientific investigation first-hand at Arkwood? If so, when and with what result?
- Did ADEQ ever formally communicate to EPA the new ADEQ standard of 1.0 ug/l prior to Mark Moix's letter of November 6, 2012? If so, when and how?
- To exactly which organisms does Ms. Clem refer in her letter of February 14, 2012, referenced above? What scientific evidence does ADEQ have to establish the existence of such organisms in the affected waters at Arkwood or of their chronic exposure to PCP? I have asked these last two questions of ADEQ in writing years ago, which is a matter of record, but was not answered.
- What is the definition of "groundwater/ surface water interception," a term Ms. Hynum used in our telephone conversation of August 22, 2013? When I questioned that usage, Ms. Hynum advised me that she is not a professional hydrogeologist.

In Mr. Moix's eight-paragraph letter of November 6, 2012 Mr. Moix uses some form of the verb "to appear" four times as follows:

"...is apparently being used..."
"...it is apparently assumed..."
"...and appears to migrate offsite..."
"...it appears the consensus of the EPA, ADEQ and McKesson..."

I would submit that all stakeholders should be dealing in ***facts, not appearances***, especially where a highly-technical and scientifically complex project such as Arkwood is concerned, and most especially where peoples lives and livelihoods are at stake, such as those of my elderly parents and those of our citizens in Boone County, Arkansas who need the jobs this site could provide when reused.

Ms. Mescher addressed the issues raised in Mr. Moix's certified letter of November 6, 2012 in her letter (attached) to Mr. Moya dated December 18, 2012 (cc'd to Mr. Moix) which states in part:

"In accordance with Arkansas Regulation 2, "surface water" is defined as, 'That water contained on the exterior or upper portion of the earth's surface as opposed to groundwater.' Using this definition, the effluent discharge is appropriately categorized as surface water."

Please see EPA website page (printout attached) regarding "Basic Information about Pentachlorophenol in Drinking Water" found at <http://water.epa.gov/drink/contaminants/basicinformation/pentachlorophenol.cfm> which states in part with regard to pentachlorophenol:

"Maximum Contaminant Level (MCL) = 0.001 milligrams per Liter (mg/L) or 1 part per billion (ppb)

"Maximum Contaminant Level Goal (MCLG) = zero"

Questions for EPA and ADEQ:

- Is the above EPA-published information that upon which ADEQ is relying in its decision to require that Arkwood affected waters be cleaned to a MCL of 1.0 ug/l?
- Will EPA ratify that the above EPA-published information is in fact that upon which ADEQ **should be** relying in its decision to require that Arkwood affected waters be cleaned to a MCL of 1.0 ug/l?

Background for next question:

On July 28, 2010, Annette Cusher wrote to me in part:

"At this time, ADEQ has not adopted the Human Health Criteria in EPA's National Recommended Water Quality Criteria for Pentachlorophenol."

Ms. Cusher was referring to the below:

National Recommended Water Quality Criteria: 2002, Human Health Criteria Calculation Matrix EPA Number: 822R02012
<http://yosemite.epa.gov/water/owrcatalog.nsf/9da204a4b4406ef885256ae0007a79c7/b94d6802c925234285256caa00476de9!OpenDocument>

Which states in part:

"This document contains information regarding the calculation of the human health criteria contained in the document entitled, National Recommended Water Quality Criteria: 2002. This document provides: cancer potency factors (q1*s); reference doses (RfDs); relative source contributions (RSCs); fish intake values; and equations used to derive the human health criteria in the aforementioned compilation. This document is not a regulation and cannot substitute for the Clean Water Act or Environmental Protection Agency (EPA) regulations. Thus, the criteria in the calculation matrix cannot impose legally binding requirements on EPA, states, authorized tribes or the regulated community."

Question for EPA and ADEQ:

- **What does above mean for Arkwood? Do these criteria apply or not?**

I would like ADEQ and EPA to address and resolve these discrepancies prior to our meeting scheduled for September 5, 2013.

At that time, I hope there will be firm and final agreement between EPA and ADEQ as to:

1. the actual toxicity/ risk to human health posed by pentachlorophenol in surface water, groundwater or drinking water
1. the appropriate remedial goal and testing scenario for PCP at New Cricket Spring --- the only water body to be in current remediation at Arkwood per the Record of Decision --- clearly stated such that, once met and satisfied, the site can be appropriately closed out, deleted from the National Priorities List and returned to productive industrial use as required by law for the benefit of the local and regional economies in Arkansas.

Respectfully submitted,

Charles Curtis Grisham, Junior

Begin forwarded message:

From: "grish.org" <curt@grish.org>
Subject: Arkwood - Pentachlorophenol | Pesticides | US EPA
Date: March 24, 2011 11:19:26 PM PDT
To: Donald Williams <Williams.Donald@epamail.epa.gov>
Cc: "grish.org" <curt@grish.org>, "Hynum, Tammie" <HYNUM@adeq.state.ar.us>, Sanchez.Carlos@epamail.epa.gov

Don,

Please see the attached EPA document, found at the following link:

<http://www.epa.gov/oppsrrd1/reregistration/pentachlorophenol/>

This is the most compelling evidence I have found that the water issue at Arkwood is in fact a red-herring non-issue, and an exceedingly expensive one at that.

1) Pentachlorophenol for use as a pesticide was re-registered by the EPA in 2008.

Here is an excerpt from the attached EPA "Reregistration Eligibility Decision for Pentachlorophenol (List B Case 2505)" approved by Frank T. Sanders, Director, Antimicrobials Division, on September 28, 2008:

"Surface water runoff from pentachlorophenol treated utility poles may be a possible source for pentachlorophenol or its transformation products in drinking water or in foods. Estimated Environmental Concentrations (EECs) for surface water have been calculated by the Agency. Drinking water levels of concern (DWLOCs) for acute and chronic dietary risk from drinking water were calculated. DWLOCs calculated for surface water for pentachlorophenol were 10,465 ppb for adult males and females and 2,990 ppb for children ages 1-6." (emphasis added)

2) The Arkansas standard as derived via unknown methodology in 1998 by Masoud Arjmandi, staff engineer at Arkansas Department of Environmental Quality (then called the Arkansas Department of Pollution Control and Ecology), requires concentrations of pentachlorophenol in New Cricket Spring to be less than **9.3 ppb** (see attached letter which was included in Mr. Ghose's draft 3rd Five-Year Review).

3) The yearly averages of pentachlorophenol concentrations in New Cricket Spring (according to data presented by Mr. Ghose in his draft 3rd Five-Year Review) range between a **high of 670 ppb** (1996, the first year of sampling, based upon two samples for the whole year) and a **low of 13 ppb** (2009).

The highest concentration of pentachlorophenol in New Cricket Spring ever recorded for any single sample was the extremely anomalous reading of **1190 ppb** from October 22, 2007. This reading was 548% higher than the next-highest reading for all of 2007 (217 ppb, also anomalous within the dataset) and therefore of dubious reliability.

Even so, this highest-ever recorded concentration of pentachlorophenol in New Cricket Spring is **less than one-eighth** of the EPA drinking water level of concern for adults and **less than one-half** the drinking water level of concern for children

ages 1-6 for acute and chronic dietary risk from drinking water as expressed in the 2008 EPA reregistration document cited above.

4) New Cricket Spring has never been a source of drinking water. Pentachlorophenol from the Arkwood site has never impacted **any** source of drinking water.

Thank you,

Curt Grisham



STATE OF ARKANSAS
DEPARTMENT OF POLLUTION CONTROL & ECOLOGY
HAZARDOUS WASTE DIVISION
8001 NATIONAL DRIVE, P.O. BOX 8913
LITTLE ROCK, ARKANSAS 72219-8913
PHONE: (501)682-0744 FAX: 682-0880



January 30, 1998

RECEIVED

FEB 09 1998

ENV. & ENCL. SERVICES

Jean Mescher, Project Coordinator
Director, Environmental Services
McKesson Corporation
One Post Street
San Francisco, CA 94104-5296

RE: New Cricket Spring
Arkwood Superfund Site, Omaha, Arkansas

Dear Ms. Mescher:

Based on pH of 7.38 for the nearest station to the New Cricket Spring (Station WHI67), the State Water Quality Standards for pentachlorophenol (PCP) at the point of discharge are as follows:

1. Monthly average: 9.3 $\mu\text{g/l}$
2. Daily Maximum: 18.7 $\mu\text{g/l}$

Moreover, pH values of the treated water of the New Cricket Spring shall not be below 6.0 or above 9.0

If you have any questions, please call me at (501) 682-0852.

Sincerely,

Masoud Arjmandi
Engineer II, Superfund Branch

cc: Mike Bates, Chief, HWD
Jean Koeninger, Superfund Branch Manager, HWD
Kin Siew, Engineer Supervisor, Superfund Branch, HWD
Mo Shafii, Engineer II, NPDES Branch, WD
Cynthia J. Kaleri, Project Manager, EPA Region 6 (6SF-LP)



ARKANSAS
Department of Environmental Quality

CERTIFIED MAIL No. 91 7199 9991 7030 4901 5218

Return Receipt Requested

November 6, 2012

U.S. EPA Region 6
Attn: Mr. Ruben Moya
Mail Code: 6SF
1445 Ross Avenue, Suite 1200
Dallas, TX 75202-2733

RE: Monthly Progress Report–September 2012
Arkwood, Inc. Site, Omaha, Arkansas

Dear Mr. Moya:

The Arkansas Department of Environmental Quality - Hazardous Waste Division (ADEQ) has received the Monthly Progress Report–September 2012 for Arkwood, Inc. Site, Omaha, Arkansas dated October 10, 2012. After reviewing the report ADEQ has the following comments:

1. According to the email from Jean Mescher, McKesson, dated October 3, 2012 provided with the subject report, samples cannot be obtained 20 feet downstream from the weir as requested by ADEQ during periods of low flow since the effluent “sinks into the subsurface before reaching the culvert”. This statement describes the effluent returning to a subsurface status and therefore returning to the state of groundwater. For this reason the Maximum Contaminant Level (MCL) for pentachlorophenol (PCP) of 1.0 ug/l should be used in lieu of the aquatic toxicity standard of 15.57 ug/l which is currently used.
2. Due to the concern discussed in Comment 1 above, a review was performed of past correspondence for clarification concerning applicable risk levels. During the review, it was noticed that the ADEQ water quality standard of 15.57 ug/l is apparently being used as the screening level for PCP in lieu of the MCL of 1.0 ug/l. However, this standard pertains to aquatic toxicity only and does not address potential human health concerns. Even as it is apparently assumed that the stream is not a source for potable water, the MCL of 1.0 ug/l should be the applicable screening level for the following reasons:
 - Much of the groundwater which rises from the spring and becomes surface water returns to groundwater and appears to migrate offsite, as groundwater.
 - According to past correspondence, it appears the consensus of the EPA, ADEQ and McKesson, that some groundwater is circumventing the spring and migrating beyond the spring as groundwater.

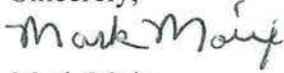


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3. Since the MCL for PCP is applicable for potential risk evaluation, the minimum reporting limit for pentachlorophenol should be less than 1.0 ug/l and not the current reporting limit of 5.0 ug/l.
4. It is noted the increase in concentration to 73.2 ppb PCP at the mouth of New Cricket Spring occurred after onsite injection of clean water ceased. The flow from the spring was 0.4 gpm at the time of sampling. It is recommended that monthly sampling and testing at the site continue as scheduled.

To address concerns discussed above, a minimum PCP reporting limit equal to or less than 1.0 ug/l is recommended for a mutually agreed upon limited period of time by the parties involved or may be used seasonally during low-flow conditions. If you have any comments or questions, please contact me at 501-682-0852 or via e-mail moix@adeq.state.ar.us.

Sincerely,



Mark Moix
Engineer, PE
Technical Branch
Hazardous Waste Division

cc: Jean Mescher, McKesson Corporation

TARGET SHEET

SITE NAME: ARKWOOD INCORPORATED

CERCLIS I.D.: ARD084930148

TITLE OF DOC.: ATT00001.HTM - ATT00009.HTM

DATE OF DOC.: 08/22/2013

NO. OF PGS. THIS TARGET SHEET REPLACES: UNKNOWN

SDMS #: 9458795 **RELATED #:**

CONFIDENTIAL ? ☐ **MISSING PAGES ?** ☐

ALTERN. MEDIA ? ☒ **CROSS REFERENCE ?** ☐

LAB DOCUMENT ? ☐ **LAB NAME:**

ASC./BOX #: ☐

CASE #: **SDG #:**

COMMENTS : THESE ATTACHMENTS ARE OF AN UNKNOWN
FORMAT AND CANNOT BE VIEWED AT THIS TIME.